



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# **General Aviation Airworthiness Alerts**

**AC No. 43-16**

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**ALERT NO. 219  
OCTOBER 1996**

**Improve Reliability-  
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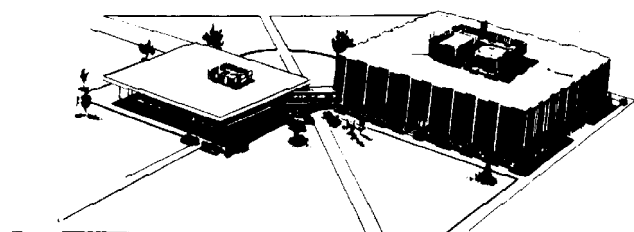
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**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
WASHINGTON, DC 20590**

# GENERAL AVIATION AIRWORTHINESS ALERTS



**FLIGHT STANDARDS SERVICE**  
Mike Monroney Aeronautical Center

The General Aviation Airworthiness Alerts provide a common communication channel through which the aviation community can economically interchange service experience and thereby cooperate in the improvement of aeronautical product durability, reliability, and safety. This publication is prepared from information submitted by those of you who operate and maintain civil aeronautical products. The contents include items that have been reported as significant, but which have not been evaluated fully by the time the material went to press. As additional facts such as cause and corrective action are identified, the data will be published in subsequent issues of the Alerts. This procedure gives Alerts' readers prompt notice of conditions reported via Malfunction or Defect Reports. Your comments and suggestions for improvement are always welcome. Send to: FAA; ATTN: Designee Standardization Branch (AFS-640); P.O. Box 25082; Oklahoma City, OK 73125-5029.

## AIRPLANES

### BEECH

<b>Beech</b>	<b>Fuel Line Damage</b>
<b>Model B33</b>	<b>7310</b>
<b>Bonanza</b>	

During an annual inspection, the metered fuel line from the fuel control to the distributor block was found severely chafed.

The line was chafing on an engine baffle installed between the Number 3 and Number 5 cylinders. The "fire sleeve," installed for prevention of chafing, had been penetrated and the line was damaged beyond use. The submitter recommended the manufacturer design and make available better chafe protection for engine compartment lines. The

possible use of leather in this area was suggested.

Part total time-4,000 hours.

<b>Beech</b>	<b>Elevator Control</b>
<b>Model F33A</b>	<b>Linkage Defects</b>
<b>Bonanza</b>	<b>2730</b>

During an annual inspection, several of the brass inserts used to hold the "ball" in a rod-end on the elevator push-pull tube (P/N 95-524017-8) were found loose and rotating.

If the ball becomes dislodged from the brass insert, it may disconnect the flight control. The looseness appears to result from vibration-induced wear and should be closely checked during scheduled inspections and maintenance.

Part total time-385 hours.

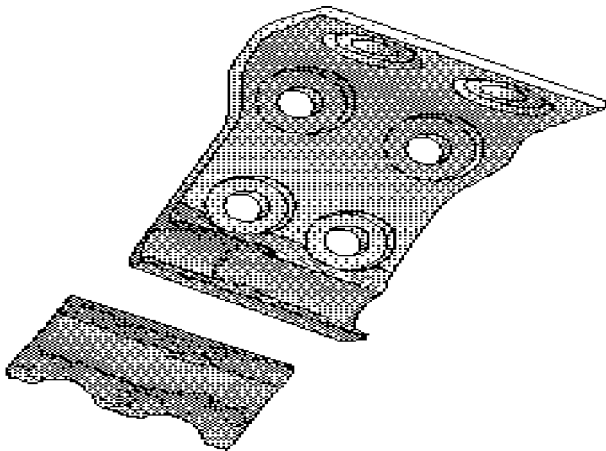
**Beech**  
**Model V35B**  
**Bonanza**

**Door Hinge**  
**Failure**  
**5210**

During an annual inspection, the cabin door was very difficult to operate.

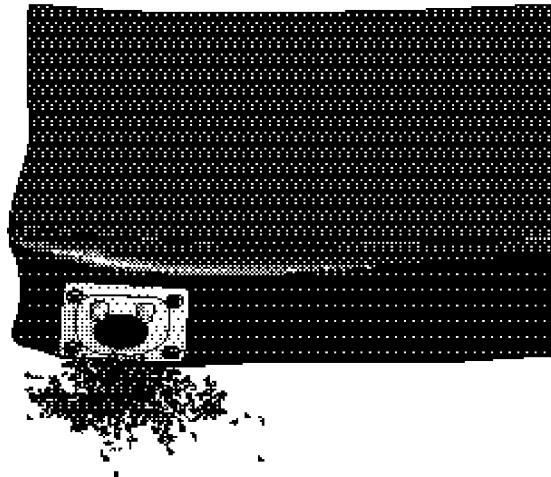
Further inspection disclosed the lower door hinge (P/N 35-400008-12) was causing the problem. After gaining access to the hinge assembly, the steel hinge pin (P/N MS20392-2C63) was found "frozen" in place by severe corrosion. While removing the hinge, it broke at the hinge radius. (Refer to the following illustration.) The submitter stated that inspection and lubrication of this hinge is very difficult without removal of the door. Door failure during flight could cause a catastrophic aircraft accident. The door hinge area deserves close scrutiny during scheduled inspections and maintenance.

Part total time-3900 hours.



material was removed, most of it had broken down to a grainy powder. (Refer to the following illustration.) The submitter stated his belief this deterioration was caused by the age of the foam material (approximately 24 years). Also stated as a possible contributing factor was the use of 100LL fuel which may have had an adverse chemical reaction on the foam material. It was recommended the manufacturer establish a life limit on the fuel cell foam and consider replacing it with a product which will not be affected by 100LL fuel.

Part total time not reported.



**Beech**  
**Model 58**  
**Baron**

**Fuel Cell Foam**  
**Deterioration**  
**2810**

During a preflight inspection, the pilot detected black particles in the fuel sample from the right inboard "quick drain."

The particles were identified as disintegrated foam from the fuel cell. When the foam

**Beech**  
**Model 58**  
**Baron**

**Landing Gear**  
**Malfunction**  
**3230**

The pilot reported the landing gear retracted without command when rotation speed was reached during the takeoff roll. The landing gear control lever remained in the "down" position.

An investigation revealed the cam came loose on the control lever shaft allowing the "microswitch" (P/N 36-380050) to stay in the "up" position. The gear retracted during the takeoff roll, when the aircraft weight was removed. The submitter recommended the

cam assembly on the landing gear control shaft be drilled and a roll pin installed to prevent the cam from becoming loose on the shaft. This would require a change by the manufacturer, a field approval from an FAA inspector, or a Supplemental Type Certificate (STC). This report along with the recommendation has been sent to the responsible FAA aircraft certification office for action.

Part total time not reported.

<b>Beech</b>	<b>Emergency Landing</b>
<b>Model 58P</b>	<b>Gear Extension</b>
<b>Baron</b>	<b>Handle Obstruction</b>
	<b>3230</b>

During an annual inspection, the emergency landing gear extension handle was found trapped under the forward spar cover.

This condition would have prevented use of the landing gear emergency system during flight. The previous installation of the spar cover was not correct. If the installer is not paying strict attention to detail, it is very easy to install the spar cover incorrectly. A search of the Service Difficulty Report (SDR) program data base revealed four other occurrences of this type since June 1990.

Part total time not reported.

<b>Beech</b>	<b>Erroneous Landing</b>
<b>Model C90</b>	<b>Gear Indication</b>
<b>King Air</b>	<b>3260</b>

After lowering the landing gear for landing, the pilot noted that there was no green light illumination for the left main landing gear to indicate a safe "down-and-locked" condition. A ground observer reported the gear appeared to be in the "down" position, and an uneventful emergency landing was made.

An examination of the system disclosed that a wire on the left main gear was broken. The broken wire was located at the top of the drag brace causing the erroneous indication. The exact cause of the broken wire was not given. However, in conjunction with each annual

inspection, it would be advisable to check for excessive tension on all wire bundles during a retraction test.

Part total time not reported.

<b>Beech</b>	<b>Engine Mount</b>
<b>Model A100</b>	<b>Failure</b>
<b>King Air</b>	<b>7120</b>

After an uneventful landing, the flightcrew noticed the right engine appeared to be a few inches lower than the left engine.

An investigation revealed the upper engine mount housing (P/N 50-389133-15) was broken. There was no mention of a hard landing or any other cause for this defect. In this case, if the engine had separated from the aircraft, the landing would surely not have been "uneventful." All engine mounts should be checked for security and structural integrity during scheduled inspections.

Part total time not reported.

<b>Beech</b>	<b>Electrical Wire</b>
<b>Model B100</b>	<b>Defects</b>
<b>King Air</b>	<b>2440</b>

During a scheduled inspection, the four gauge wires which run from the firewall connector to the starter/generator were found with cracked insulation.

This condition was found on both engines and affected a total of eight wires. The affected wire numbers were K2D4, K2F4, P10A4, P10C4, P10E4, K17A4N, K17B4N, and K17C4N. The submitter found it odd that the wires were cracked parallel with the wire. Some of the cracks were approximately 3 inches long and exposed the center conductor. The cracks appeared on the outside of bends and on straight sections. No cause of these defects could be determined. However, the submitter suggested these, and other wires, be thoroughly checked during scheduled inspections and maintenance in the area.

Part total time-4,793 hours.

**Beech**  
**Model 400**  
**Beechjet**

**Brake System**  
**Blockage**  
**3242**

The pilot reported that after starting the engines the aircraft brakes would not release and the aircraft would not move. Hydraulic system pressure was reported to be normal.

An investigation disclosed the wheel brakes were "locked," and all attempts to release them failed. Further examination of the system revealed the hydraulic power brake valve return filter (P/N 20011-6-10W) was completely blocked. This allowed hydraulic pressure to remain on the brake without relief. The submitter stated the present requirement for cleaning these filters is every 24 calendar months, with no hourly requirement. It was recommended the filters be checked and cleaned at 400-hour intervals.

Part total time-3,686 hours.

#### BELLANCA

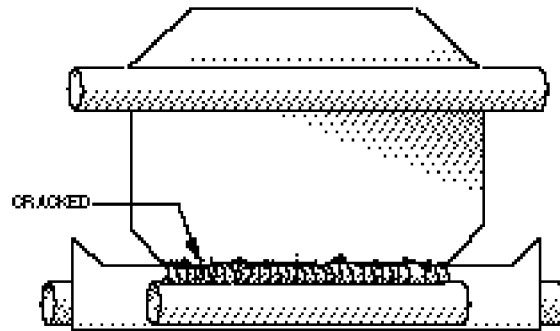
**Bellanca**  
**Model 17-31A**  
**Super Viking**

**Nose Landing Gear**  
**Crack**  
**3220**

While preparing to move the aircraft by use of a hand tow bar, an abnormal flaking of the paint was noticed.

The paint was flaking off of the steering collar (P/N 19453-30) in an unusual pattern. When all of the paint was removed, the weld on the steering collar was found cracked from one side to the other. (Refer to the following illustration.) The submitter did not offer a cause for this defect.

Part total time-1,997 hours.



#### CESSNA

**Cessna**  
**Model 150H**  
**Commuter**

**Fuel Sump Drain**  
**Corrosion**  
**2820**

The aircraft owner reported the right wing fuel tank sump drain valve became progressively more difficult to operate. It finally became impossible to open.

After removal, the drain valve was severely corroded between the plunger and the valve body. The submitter suggested the material used to construct the drain valve is conducive to corrosion when in the presence of fuel, water, and other environmental contaminants.

Part total time not reported.

**Cessna**  
**Model 150L**  
**Commuter**

**Defective**  
**Carburetor Heat**  
**Door**  
**7160**

The pilot reported the engine would not develop full power.

During an inspection, the carburetor heat door was found loose on the shaft. This condition disabled control of the door position. The defect was caused by corrosion under the weld used to attach the door to the shaft. This would be a good area to pay particular attention to during scheduled inspections.

Part total time not reported.

<b>Cessna</b>	<b>Wing Flap Track</b>
<b>Model 152</b>	<b>Corrosion</b>
<b>Aerobat</b>	<b>5753</b>

During a 100-hour inspection, severe corrosion was found on the wing flap track.

The corrosion appeared to be intergranular and was located along the bottom of the right inboard flap track (P/N 2425001-2). The flap track had been installed approximately 23 months prior to this discovery. The submitter did not offer a cause or cure for this discrepancy.

Part total time-773 hours.

<b>Cessna</b>	<b>Instrument Problems</b>
<b>Model 152</b>	<b>3610</b>
<b>Aerobat</b>	

After two aircraft from the same flight school were reported to have instrument malfunctions, an investigation to determine the cause was initiated.

The cause of the problems was traced to crumbling vacuum system hoses. The interior of the hoses was dry and brittle and crumbled at the slightest touch. One of the aircraft had suffered a vacuum pump failure due to ingestion of hose material. Cessna has issued Service Bulletin SEB 96-10 which covers this subject and has additional information. This has been a longstanding problem, and all maintenance technicians, owners, and operators are encouraged to inspect and replace these hoses, as necessary, in accordance with SEB 96-10.

Part total time-5,672 hours.

<b>Cessna</b>	<b>Fuel Tanks</b>
<b>Model U206</b>	<b>Corrosion</b>
<b>Super Skywagon</b>	<b>2810</b>

Aircraft of this model, fitted with auxiliary fuel tiptanks, and installed in accordance with Supplemental Type Certificate (STC) SA4368WE, have been found with corrosion of the internally installed components.

The corrosion affects check valves, fuel transmitters, and transfer pumps. It has been determined that the corrosion results from condensation within the tanks due to low fuel levels over an extended period of time. On some aircraft, flaking particles of corrosion (rust) have been found throughout the fuel system. The submitter stated corrosion of the steel fuel tank components has made it necessary to change them annually.

This problem may also affect other aircraft using this STC installation. The key seems to be keeping the tiptanks topped off and using them during operation.

If not corrected, this condition could result in erroneous fuel quantity indications, insufficient fuel flow to the engine, and subsequent engine power loss. It was recommended that owners/operators fill all fuel tanks to a level sufficient to completely submerge all fuel tank components prior to storing an aircraft for an extended length of time. Inspection of all fuel system components for corrosion prior to operation is also recommended.

Information for this article was furnished by the FAA's Aircraft Certification Office, Propulsion Branch (ANM-140L), located in Renton, Washington. If further information is needed on this subject, you may contact Ms. Elizabeth Bumann by telephone at (310) 627-5265.

Part total time not reported.

**Cessna                      Fuel Leak**  
**Model U206                2820**  
**Skywagon**

A maintenance technician was asked to investigate the source of a fuel leak and found two flexible fuel hoses were severely leaking. The aircraft owner was advised not to fly the aircraft until this problem was repaired.

Further investigation revealed both fuel hoses (P/N's 601000-4-0234 and 601000-4-0286) were manufactured by Aeroquip and had been installed approximately 2 years prior. This was confirmed by tags attached to the hoses which were marked "1Q94." This indicates they were manufactured in the first quarter of 1994. The cause of this premature failure was not given by the submitter.

Part total time not reported.

**Cessna                      Wing Attachment**  
**Model 402C                Defects**  
**Businessliner             5740**

The aircraft owner reported the right wing made "creaking and groaning" sounds when the wing was flexed.

An inspection revealed the lower forward main spar attachment fittings (P/N's 0822550-20, -26, and 0811350-8) were worn at their attachment bolts. After removal, the attachment fittings bolt holes were found elongated, and corrosion was evident. The corrosion had also pitted the mating surfaces of the wing attachment fittings. No reason, other than age, was given for these defects.

Part total time-19,463 hours.

**Cessna                      Improper Seat**  
**Model 421B                Installation**  
**Golden Eagle             2520**

During an annual inspection, a passenger seat (designed to be installed in a "forward facing" position) was found installed in an "aft facing" position.

Since there is a structural difference between these two seat designs, they may fail under

normal stress causing injury to the occupant. Airworthiness Directive (AD) 78-13-05 and the manufacturer's service information (MEB 78-17) cover this subject. However, the AD requires only a one-time inspection. The submitter recommended this AD be revised to require a recurring inspection each time the seats are removed and reinstalled. This same condition, along with the AD, may apply to other make and model aircraft. Refer to the AD for applicability.

Part total time-2,533 hours.

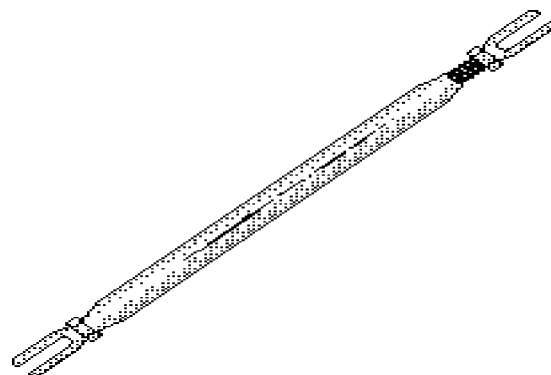
**Cessna                      Rudder And Elevator**  
**Model 500                Trim Control Defects**  
**Citation                    2721 and 2731**

During routine maintenance, the rudder and elevator trim push-pull tubes were removed for lubrication of the adjustment threads. Two of the push-pull tubes were found with defects which made them unairworthy.

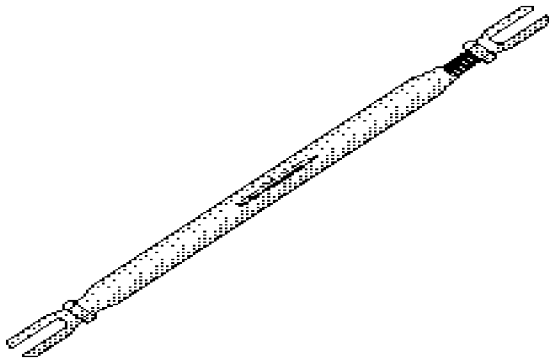
The rudder push-pull tube was split lengthwise approximately 80 percent of its length. The submitter speculated this may have been caused by water trapped inside the tube causing it to split when the water froze.

The elevator push-pull tube was found with a "braze" repair over a split. The "braze" material was also split, exposing the tube split and the tube interior. (Refer to the following illustrations.)

Part total time-7,506 hours.







**Cessna**  
**Model C550**  
**Citation**

**Cockpit Smoke From**  
**Defog Fan**  
**2121**

The pilot reported the defog fan failed, filling the cabin with smoke.

The defog and overhead fans are on the same electrical circuit. This allows electrical power to be continually supplied to a unit which has failed, without opening the circuit breaker. The submitter suggested the manufacturer issue a Service Bulletin which would allow these circuits to be "split" and install separate circuit breakers which will open the circuit if a unit fails. The submitter stated experiencing this problem on two other occasions.

Part total time-2,563 hours.

#### DIAMOND

**Diamond**  
**Model DA 20**

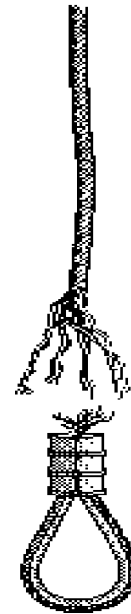
**Rudder Control**  
**Failure**  
**2720**

While taxiing the aircraft, the pilot's left rudder pedal suddenly became loose and unresponsive.

An investigation disclosed the pilot's left rudder cable (P/N 20-2720-01-00) had been in contact with the "S-tube," and was broken at the "Nico-press" fitting. (Refer to the following illustration.) With the rudder pedals adjusted full forward, the "S-tube" makes sufficient contact with the rudder cable to cause this

type of damage. The copilot's right rudder cable was also found worn and frayed. It was recommended that all operators have the rudder control system checked in this area, as soon as possible.

Part total time-766 hours.



**Diamond**  
**Model DA 20**

**Instrument Panel**  
**Circuit Breaker**  
**Failure**  
**2460**

A habitual problem was reported by this operator concerning circuit breakers mounted on the instrument panel opening the circuit.

This seems to occur during the hottest part of the day. When the circuit breakers open, they will not reset until they are given time to cool down. The submitter speculated that as the temperature rises, a corresponding increase in electrical resistance causes the circuit breakers to sense a voltage overload causing them to open. The location of the circuit breakers and their operating environment were believed to be the cause of this problem.

Part total time-366 hours.

**MEYERS**

**Meyers**                                      **Rudder Spar Cracks**  
**Model 200 Series**                      **5540**

Information for the following article was furnished by the FAA's Aircraft Certification Office (ASW-150), located in Fort Worth, Texas.

The rudder spar in the area of the upper hinge attachment to the vertical stabilizer has been found cracked on several occasions. These cracks range from .25 inch to 2 inches in length. In one case, the hinge bracket separated from the spar leaving the rudder disengaged at the top.

Owners and operators of these aircraft should inspect the upper rudder hinge area immediately and during annual inspections. Most of the cracks detected began to develop at approximately 1,000 hours' time-in-service.

A solution to this problem is presently being developed by Mr. Bob May of the office previously listed. To receive further information regarding this subject, you may contact Mr. May at (817) 222-5156.

Parts total time as previously stated.

**MOONEY**

**Mooney**                                      **Engine Fuel**  
**Model M20J**                              **Starvation**  
     **7314**

The pilot reported the engine lost power and stopped. All attempts to restart the engine failed and an emergency landing was necessary.

An investigation revealed the engine-driven fuel pump (P/N LW15473) had failed and appeared to be blocked internally. This blockage would not allow fuel pressure from the auxiliary fuel pump to pass to the engine. No other defects were found in the fuel system, all screens were clean, and the auxiliary fuel pump functioned properly.

The cause of failure of the engine-driven fuel pump and the blockage of fuel flow was not given by the submitter.

Part total time-98 hours.

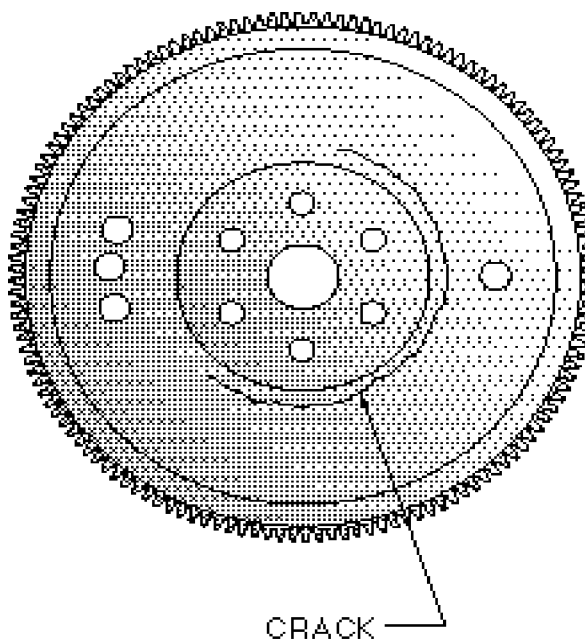
**PIPER**

**Piper**                                      **Engine Starter Ring**  
**Model PA 22-135**                      **Crack**  
**Tri-Pacer**                              **8012**

During an annual inspection, a crack was found in the face of the engine starter ring support.

A dye-penetrant inspection revealed the crack traveled approximately half-way around the circumference of the starter ring support (P/N 69340). However, the crack did not penetrate the thickness of the ring gear support. (Refer to the following illustration.) The submitter did not offer a cause for this defect.

Part total time-3,389 hours.



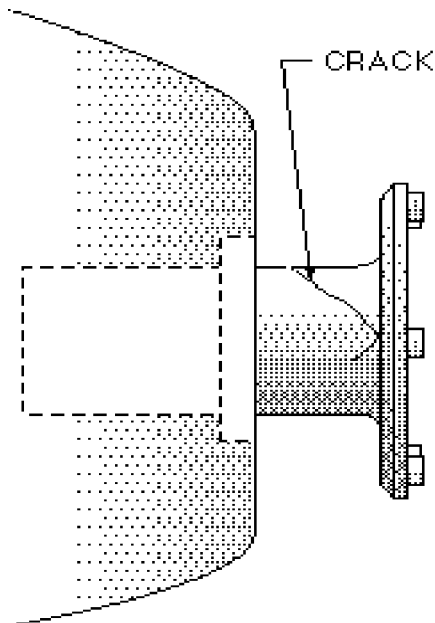
**Piper**  
**Model PA 28-161**  
**Warrior**

**Crankshaft Crack**  
**8510**

The pilot reported that during flight, engine oil began spraying onto the windshield. A successful airport emergency landing was made.

The engine installed in this aircraft was a Textron Lycoming Model O-320-D3G. During an investigation, the engine crankshaft (P/N LW-17060) was found cracked. (Refer to the following illustration.) The crack appeared to have originated at the propeller flange radius. The crack was detectable visually for approximately 1.75 inches. At the time of this report, the cause had not been determined.

Part total time-6,047 hours.



**Piper**  
**Model PA 28R-201**  
**Arrow**

**Wing Rib Crack**  
**5712**

During an annual inspection, a rib in the left wing wheel well area was found cracked.

The wing rib (P/N 78475-004) was cracked in the flange radius at the forward lower corner. At this point, the rib is attached to the wing spar. Also, the landing gear drag link knuckle is attached at this point. The cause of this defect was not given by the submitter.

Part total time-5,813 hours.

**Piper**  
**Model PA 28-236**  
**Dakota**

**Alternator Failure**  
**2421**

While taxiing the aircraft, the alternator failed.

During an initial inspection, the alternator drivebelt was found loose. Further examination revealed the alternator mount bracket (P/N 65199-05) was broken. From the available evidence, it appeared the mount bracket had been cracked for some time.

Research of the aircraft maintenance records disclosed the alternator had been changed 20 hours prior to this occurrence. The submitter speculated this defect may have been caused by improper installation of the alternator (not in accordance with the manufacturer's technical data). It was necessary to change both the mount bracket and the alternator due to excessive wear and damage to the alternator case holes.

Part total time not reported.

**Piper**  
**Model PA 31T**  
**Cheyenne**

**Landing Gear Door**  
**Hinge Failure**  
**5280**

During a preflight inspection, the pilot discovered the right outboard main landing gear door hinge was cracked.

There was no evidence of a previous crack in the hinge assembly (P/N 42059-07). It was presumed this failure occurred during the last flight of the previous day. The cause of this failure could not be determined. The other three landing gear door hinges were checked and no defects were found. This area should be

closely checked during all inspections and maintenance.

Part total time-2,275 hours.

<b>Piper</b>	<b>Cabin Doorframe</b>
<b>Model PA 31T</b>	<b>Failure</b>
<b>Cheyenne</b>	<b>5210</b>

The cabin entrance door failed when a passenger was exiting the aircraft.

Apparently, the passenger did not allow the door to fully extend prior to stepping onto the steps. The "snubber valve" upper mount bracket was torn away from the forward doorframe bulkhead. An examination of the bulkhead revealed evidence of pre-existing cracks emanating from rivets in the "snubber" mount area. The submitter recommended this area be checked for cracks during scheduled inspections and maintenance. A placard stating "for crew operation only" may help to prevent this type occurrence.

Part total time-4,244 hours.

<b>Piper</b>	<b>Brake Cylinder</b>
<b>PA 31T</b>	<b>Failure</b>
<b>Cheyenne</b>	<b>3242</b>

The left main gear brake cylinder failed during a pressure test of the system.

After overhauling the brake system, 150 pounds per square inch (PSI) of hydraulic pressure was applied to the system for a pressure test. The left brake cylinder (P/N 2-1435-2) "split" from one end bolt hole, approximately half-way across the cylinder assembly. The manufacturer's technical data calls for a pressure test using 180 PSI of hydraulic pressure. It appeared this part had been installed as original equipment. The safety implications of an operational failure of this part are all too evident. Rigorous attention should be given to these cylinders during scheduled inspections.

Part total time-3,487 hours.

<b>Piper</b>	<b>Landing Gear</b>
<b>Model PA 31-325</b>	<b>Control Failure</b>
<b>Navajo</b>	<b>3230</b>

The pilot reported that when the landing gear control handle was selected to the "down" position, a "snap" was heard. The handle fell loosely to the "down" position. The landing gear could not be extended by any other means, and a "gear up" landing was made.

An inspection revealed the landing gear control cable (P/N 55416-02) was broken inside the outer housing near the gear handle end. The submitter speculated the cable failed due to age, fatigue, and a high number of cycles. There was no evidence of corrosion or other damage associated with the cable.

Part total time-7,629 hours.

<b>Piper</b>	<b>Induction Air System</b>
<b>Model PA 32-260</b>	<b>Crack</b>
<b>Cherokee Six</b>	<b>7160</b>

While servicing the landing gear nose strut, maintenance personnel discovered the carburetor air box was cracked.

The crack traveled approximately 270 degrees around the circumference of the carburetor attachment flange (front to right rear). The submitter stated: "This assembly is quite heavy and puts a strain on the weld." No other cause for this defect was given.

Part total time-3,500 hours.

<b>Piper</b>	<b>Landing Gear</b>
<b>Model PA 34-200T</b>	<b>Failure</b>
<b>Seneca</b>	<b>3230</b>

The pilot reported that when the landing gear was selected to the "down" position during a landing approach, the left main landing gear did not indicate "down-and-locked". The gear "unsafe" light remained illuminated, and the landing gear pump continued to run. An uneventful landing was made.

An investigation disclosed the left main landing gear was not locked; however, it was supporting the aircraft. The down-lock fitting (P/N 67031-02) was found broken at the pivot holes. One side of the down-lock fitting had evidence of intergranular corrosion along the crack. The other side was broken cleanly.

Part total time-3,677 hours.

### SLINGSBY

<b>Slingsby</b>	<b>Engine Throttle</b>
<b>Model T67M260-T3A</b>	<b>Failure</b>
	<b>7603</b>

The pilot reported an in-flight emergency was declared when the engine failed to respond to movement of the throttle control. A safe landing was made.

An inspection of the system, revealed the throttle "push-pull rod" (P/N T67G-150-525) was broken. This rod consists of a steel tube with all thread "screw shank" welded to the end. The "screw shank" has a "fork" end threaded onto it for adjustment of the throttle. In this case, the "screw shank" failed near the point where it was welded to the steel tube. This area deserves rigorous attention during scheduled inspections.

Part total time-314 hours.

## HELICOPTERS

### ATTENTION PILOTS, MECHANICS, AND OPERATORS OF MBB, BO-105 AIRCRAFT

The following article was submitted by the Flight Standards District Office (ASW-03) located in Baton Rouge, Louisiana. Only minor editorial changes have been made.

It has been noted that Eurocopter (formerly MBB) has changed its maintenance practices

with regards to components that have been involved in an accident or incident.

Operators need to review their component history cards to determine if drive line components (gear boxes, rotor heads, hydraulic control unit, etc.) have ever been involved in a sudden stoppage incident. If components that fall into this category are discovered, the manufacturer of that product should be contacted and given the part number and serial number of the component.

Review of the manufacturer's recommendations with regard to components subjected to sudden stoppage now requires one of three actions.

1. The manufacturer may tell the operator that the part may be used.
2. The manufacturer may tell the operator that the part may be used if certain parts are replaced.
3. The manufacturer may tell the operator that the part will need to be evaluated by the manufacturer at the manufacturer's facility.

Keep in mind that there may have been some serious accidents attributed to the use of these types of components, and safety is everyone's concern.

### AMERICAN EUROCOPTER

<b>American Eurocopter</b>	<b>Shorted Aircraft</b>
<b>Model AS-350B2</b>	<b>Battery</b>
<b>Ecureuil</b>	<b>2432</b>

The battery temperature light illuminated during flight. An inspection revealed that the battery had shorted. The cause was from a secondary lead that is attached to the aircraft battery using a metal tab lug which is connected to a wire-end connector and a nut and bolt which is protected by a shrink insulator. This nut and bolt connecting the

wire-end connector and tab lug wear through the installation and contacts the Nicad battery case, thus shorting and causing the battery to overheat. The submitter suggested the replacement of the wire terminal connector and tab lug with a single and appropriately sized wire-end terminal.

Part total time-900 hours.

<b>American Eurocopter</b>	<b>Fuel Boost Pump</b>
<b>Model AS-355F1</b>	<b>Circuit Board Melted</b>
<b>Twin Star</b>	<b>2822</b>

The pilot reported that the fuel boost pump had failed. Inspection revealed that the printed circuit board (P/N 355A-01-5199-02) and connector were melted at one corner. The submitter suggested that the starting procedure be amended to turn the boost pump switch off just prior to starting the engines. It was suspected that high current draw over the circuit board during start sequences and lowered available voltage, overheated the boost pump circuit board.

Part total time not reported.

## BELL

<b>Bell</b>	<b>Emergency Flotation</b>
<b>Model 214ST</b>	<b>Valve Actuating Pins</b>
<b>Super Transport</b>	<b>Not Properly Seated</b>
	<b>3212</b>

Information for the following article was submitted by the Rotorcraft Certification Office located in Fort Worth, Texas.

This Alert Service Bulletin (ASB) affects Model 214ST equipped with the emergency float kit (P/N 214-706120), and spare tail boom assemblies (P/N 214-031-003-All) equipped with emergency floats, and all spare solenoid valves or valve assemblies.

Recently, a 214ST helicopter experienced two inadvertent inflations of the emergency float system resulting from self-activation of the solenoid valves. Investigation of the two valves involved in both incidents revealed the actuating pins had not properly seated.

Additionally, one pin showed evidence of an unauthorized field repair/modification. All existing valves and valve assemblies (P/N 214-073-929-103,-105 and P/N 214-073-940-101,-103) must be overhauled and/or modified and upgraded at the next scheduled "B" (250 hour) inspection, 180-day float inspection, or 3-year float system operational check, whichever occurs first, but not later than November 30, 1996.

<b>Bell</b>	<b>Cracked Main</b>
<b>All Models</b>	<b>Transmission Spiral/</b>
	<b>Bevel Gear</b>
	<b>6320</b>

The following article was submitted by the Rotorcraft Certification Office located in Fort Worth, Texas.

Bell Helicopter Textron, Inc., has recently investigated a number of transmission spiral bevel gears with cracks originating in the bolt holes. Total time on these parts range from 71 hours to more than 4,000 hours. In each case, the occurrence was detected by either a chip light indication or by debris found during the scheduled oil change. All Bell Helicopter owners/operators must adhere to the published emergency procedures for transmission chip light indications. Operators are also reminded of the importance of performing the required troubleshooting and serviceability checks in order to determine sources for such indications.

Bell Helicopter Textron, Inc., has issued Operations Safety Notice (OSN) GEN-96-28 which addresses this problem. Upon request, copies of the notice may be obtained from Bell Helicopter Textron, Inc.; P.O. Box 482; Fort Worth, TX 76101.

<b>Bell</b>	<b>Anticollision Light</b>
<b>Model 206L1</b>	<b>Failed</b>
<b>Long Ranger</b>	<b>3340</b>

The anticollision lamp assembly (P/N A469B) failed. The submitter stated this was the

fourth lamp that had failed within 20 to 30 flight hours. It was suggested that the use of the older part number (P/N A469A) might solve this problem. The submitter stated that as of this date, they are getting 200 to 300 flight-hours out of the older lamps.

Part total time not reported.

### ROBINSON

<b>Robinson</b>	<b>Main Transmission</b>
<b>Model R-22</b>	<b>Oil Leak</b>
<b>Beta</b>	<b>6320</b>

While performing a preflight inspection, the pilot noted a puddle of oil (blue in color) on the ground beneath the helicopter. Further inspection by maintenance personnel revealed that oil was leaking from the lower transmission housing cover parting surface. Inspection of the cover after disassembly revealed porosity in the area of the "O-ring" sealing surface of the cover. The "O-ring" showed indications of porosity transfer marks in the "O-ring." The submitter stated this is a quality-control condition that was missed by the manufacturer of the transmission.

Part time since overhaul-120 hours.

### AGRICULTURAL AIRCRAFT

### AYRES

<b>Ayres</b>	<b>Fuel Contamination</b>
<b>Model S2-R</b>	<b>2820</b>
<b>Thrush</b>	

The pilot reported the engine suddenly lost power during aerial application, and an emergency landing was necessary. The pilot was not injured; however, the aircraft sustained substantial damage.

An investigation disclosed the carburetor fuel inlet screen was clogged by what appeared to be rubber particles. The carburetor bowl was contaminated with water, corrosion, and other

debris. The submitter recommended the fuel supply be checked for contamination and all fuel hoses should be checked for deterioration and serviceability. Fuel screens and the carburetor bowl should be checked and cleaned thoroughly during scheduled inspections.

Part total time not reported.

### CESSNA

<b>Cessna</b>	<b>Loose Fasteners-</b>
<b>Model A188B</b>	<b>Elevator Torque</b>
<b>Ag Pickup</b>	<b>Tube</b>
	<b>5552</b>

During an annual inspection, six rivets (P/N AN470AD5) were found "working." These rivets were installed in the right elevator torque tube at the point where it connects the attachment flange to the elevator arm (P/N 1234029-1AGW).

This defect was found by moving (by hand) the trailing edge of the left and right elevators in opposite directions. This procedure resulted in feeling and seeing slack between the two surfaces. Further examination revealed these rivets were "sheared." The submitter stated this defect has been found several times in the past.

Part total time-2,916 hours.

### AMATEUR, EXPERIMENTAL, AND SPORT AIRCRAFT

### LANCAIR

<b>Lancair</b>	<b>Handle On Landing</b>
<b>Model 235</b>	<b>Gear Control Switch</b>
	<b>Broke</b>
	<b>3230</b>

When the pilot attempted to lower the landing gear during approach, the handle on the landing gear control switch broke off preventing the gear from lowering using the

normal electric/hydraulic system. Manual gear extension was initiated; however, the nose gear failed to extend. A nose gear-up landing was performed.

The submitter stated there were two problems noted during the initial inspection after the incident. The electrical switch, used to activate the landing gear operating relays, was extremely small and was manufactured in a very lightweight (cheap) construction. A portion of the failed switch lever is made of extremely thin material. Secondly, when the lower cowl was removed, the engine mount/nose gear support was discovered to be broken at the left side of the nose gear. It was suspected that this broken tube allowed the nose gear to shift position enough to jam in the wheel well preventing it from moving into the "down" position when the manual extension system was used. The cause of the cracked tube has not been determined. The last conditional inspection on this aircraft was performed October 1995, at 177.6 hours.

Part total time-237 hours.

REVOLUTION		HELICOPTER
Revolution	Helicopter	Undersized Engine
Model Mini	500	Pistons
		8530

A vibration spectrum analysis was being conducted in order to perform dynamic rotor adjustment maintenance. Cables were attached to the aircraft's accelerometer to sense vibration and the RPM vibration spectrum analysis unit. The aircraft was then hovered at approximately 5 feet above the ground for 30 seconds. It was at this time that the pilot felt a sudden and unexpected vibration "thud," and the helicopter started to quickly lose altitude. The helicopter impacted the ground, and the right landing gear skid collapsed. This caused damage to the leading edges of the main rotor blade spars. An examination of the aircraft did not identify any

mechanical defects that were thought to be the cause of the incident. However, due to the "thud" or backfire sound the pilot noted prior to losing altitude, the engine was removed for further inspection. The engine was then sent to Leading Edge Air Foils, Inc. They discovered that the pistons in this engine were slightly undersized at the skirt end. It was suspected that this was caused by improper break-in procedures of this engine. Leading Edge Air Foils, Inc., felt that the problems found could possibly have caused this engine to backfire and momentarily lose power, although no conclusive evidence of this could be presented.

Part total time not reported.

PROPELLERS AND POWERPLANTS

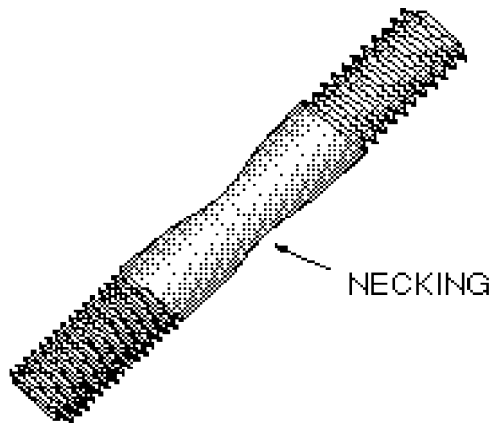
TELEDYNE		CONTINENTAL
Teledyne	Continental	Defective Cylinder
Model TSIO	360	Base Studs
		8530

While investigating the cause of several broken cylinder base studs, some of the nuts were found to have less than the required torque.

Thirty-six new studs (P/N 643651-1) were ordered (12 from each of three separate vendors) and were received in "TCM" marked packages. While installing these studs and applying the minimum torque, 12 of the studs "stretched." (Refer to the following illustration.) The exact origin of these studs has not yet been determined, and a sample has been sent to Teledyne Continental for metallurgical analysis. At this time, the analysis results are not available; however, as soon as they become available, they will be published in this publication.

Part total time-0 hours.





### TEXTRON LYCOMING

**Textron Lycoming                      Cylinder Failure**  
**Model TIGO-541                      8530**

While investigating a reported engine oil leak, oil was found around the "Number 1" cylinder push rod tubes. The seals were replaced, and an operational check was satisfactory. After the first flight, the pilot reported the oil leak had developed again.

A more thorough inspection and disassembly of the cylinder (P/N LW14115) revealed the sleeve was cracked around approximately 75 percent of its circumference. The maintenance records disclosed this was the third cylinder installed in the "Number 1" position in the last 4 years. The piston (P/N LW10545) displayed signs of "being hot," and the piston skirt was oil-coked and discolored. The submitter suspected the oil nozzle was not working properly. The submitter did not offer a cause or cure for this defect.

Part total time-321 hours.

## ACCESSORIES

### JANITROL AIRCRAFT HEATER, SERVICE BULLETIN

Information for the following article was furnished by the FAA Aircraft Certification Office (ACE-103), located in Kansas City, Missouri.

JanAero Devices, the manufacturer of Janitrol aircraft heaters, has issued Service Bulletin Number (SB) A-103, dated September 1994, which deals with problems related to the combustion air switch.

There have been occurrences where failure of the JanAero Devices B-series combustion heaters, Models B1500, B2030, B3040, and B4050, combustion air pressure switch has led to heater failure. In one case, an explosion resulted, and the baggage compartment door was blown off the airframe. In another case, an in-flight fire resulted.

JanAero Devices has developed a new combustion air pressure switch to eliminate the cause of these failures. The SB contains procedures for incorporating the new switch. This SB has been FAA approved and may be used as the reference to approved data for installation of the new switch.

One purpose of this article is to clear up some apparent confusion concerning the use of the SB as approved data. The SB is "FAA approved," therefore may be used for installation of the new switch. Refer to the SB for applicability and further information.

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**TRIM TAB MAINTENANCE**

The following article was submitted as a recommendation to the FAA from the Air Accidents Investigation Branch (AAIB), located in the United Kingdom.

The recommendation was issued to emphasize to pilots, engineers, and maintenance personnel the importance of routine maintenance of trim tab control systems, particularly in respect to free play and stiffness and the need to correctly document and report defects and repairs. The AAIB's recommendation was prompted by three accidents involving a Piper PA 34-200, a Piper PA 34-220T, and a Beech 95A. The three accidents appeared to exhibit similarities in the rudder trim tab assembly found at the accident site.

Based on the AAIB's conclusion involving these investigations, the FAA would like to emphasize proper maintenance of the rudder trim tab system (inspection for signs of the onset of fatigue, proper rigging, etc.) in accordance with the manufacturer's recommended maintenance program and the importance of acceptable well-documented repairs of the rudder trim tab assembly.

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**DEFECTIVE HARDWARE**

While attempting to torque hardware on an aircraft installation, the nuts (.25-inch by 28) threads, (P/N AN315-4), proper torque could not be applied. The required torque value for this installation of 20 fasteners was 110-inch pounds, and the nut threads "pulled" prior to reaching that value. Three different calibrated torque wrenches were used, all producing the same result. The submitter had obtained 2 packages of 50 nuts each from a distributor in San Jose, California. Other than the part number, the only other identification was "Lot number 15783." It would be wise to conduct a thorough and searching "receiving inspection" on all hardware. A complete

metallurgical test could not, of course, be accomplished. However, you may be surprised what you can find with some simple shop tests.

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**UNAPPROVED PARTS  
NOTIFICATION**

**R-985 ENGINE BEARINGS SUSPECTED  
UNAPPROVED PARTS**

The following information is printed exactly as it was originally published by the FAA's, Airworthiness Programs Branch, AFS-610.

PROGRAM OFFICE, AVR-20  
PO BOX 16317  
WASHINGTON, DC 20041



U.S. Department of Transportation  
Federal Aviation Administration

No. 94-196  
August 26, 1996

Published by: FAA, AFS-610,  
P.O. Box 26460, Oklahoma City, OK 73125

**AFFECTED ENGINE:  
Pratt & Whitney R-985****INTRODUCTION:**

The purpose of this alert is to advise all owners, operators, maintenance entities, and manufacturers of the above model radial engine, that certain bearings, part number 12768, were produced without an FAA Production Approval.

**BACKGROUND:**

A recent investigation based on a suspected unapproved parts report has yielded concern that some operators may be using military surplus bearings for installation in R-985-SB-3 radial engines. The bearings in question may have contributed to the forced landing of a Dehavilland DHC-2MK. These bearings are packed in a United States Army olive drab

can. The can identifies its contents as Pratt & Whitney part number 12768 and the exterior label states that contents were packed and sealed in January, 1964. There is no reference to an FAA Production Approval. The outer race may contain the markings "MRC 304R Gurney" and areas of the bearing assembly may be corroded. It is suspected that these bearings were intended for use in ground power units or tank engines.

**RECOMMENDATION:**

Type Certificated products are required to conform to their Type Design. Owners, operators, maintenance entities, and manufacturers should inspect their affected aircraft and/or stock for the referenced part number. Parts which cannot be traced to an approved source should be considered suspect and appropriate action taken.

**FURTHER INFORMATION:**

The FAA Manufacturing Inspection District Office (MIDO), listed below, would appreciate any information that you could provide concerning the discovery of these parts from any source, the means used to identify the source, and the actions taken to remove them from aircraft and/or stock.

This notice originated from the New Cumberland, PA, MIDO, 400 Airport Road, Room 102, New Cumberland, PA 17070-3419; telephone (717) 782-4425, fax (717) 782-2231 and was published through the Suspected Unapproved Parts Program Office, AVR-20, telephone (703) 661-0111, fax (703) 661-0113.

**AIR NOTES****ALERTS ON LINE**

We have received several requests to make the information contained in this publication available electronically. Therefore, this publication is now available through the

FedWorld Bulletin Board System (BBS), via the Internet.

You may directly access the FedWorld BBS at telephone number (703) 321-3339. To access AC 43-16, General Aviation Airworthiness Alerts, through the Internet, use the following address.

<http://www.fedworld.gov/ftp.htm>

This will open the "FedWorld File Transfer Protocol Search And Retrieve Service" screen. Page down to the heading "Federal Aviation Administration" and select "FAA-ASI". The file names will begin with "ALT", followed by three characters for the month, followed by two digits for the year (e.g. "ALTJUN96.TXT"). The extension "TXT" indicates the file is viewable on the screen and also available to download. In the future, we will use the Adobe Acrobat software program format to upload this monthly publication. At that time, they will appear with a "PDF" extension, and it will be necessary to download the files for viewing. This change is necessary to accommodate inclusion of the illustrations associated with various articles. The Adobe Acrobat Viewer is available for download from the Internet (free of charge) and will allow the files to be read.

Also available at this location are the Service Difficulty Reports which may be of interest.

The Regulatory Support Division (AFS-600) has established a home page on the Internet, through which the same information is available. The address for the AFS-600 home page is:

<http://www.mmac.jccbi.gov/afs/afs600>

Also, this address has a large quantity of other information available. There are "hot buttons" to take you to other locations and sites where FAA Flight Standards Service information is available. Try it, you will like it. If problems are encountered, you can "E-mail" us at the following address.

Other requests have been received indicating a need to make the staff of this publication

more available to our readers. To provide greater and more flexible access for you to offer information and ask questions, you may use any of the following methods to contact us.

**Editor:** Phil Lomax, AFS-640

**Telephone Number:** (405) 954-6487

**FAX Number:**  
(405) 954-4570 or (405) 954-4748

**Internet E mail address:**  
ga-alerts@mmacmail.jccbi.gov

**Mailing Address:**  
FAA  
Attn: Designee Standardization Branch, AFS-640  
P.O. Box 25082  
Oklahoma City, OK 73125-5029

We hope this will allow you to contact us by a means which will be convenient and save some of your time. We welcome the submission of aircraft maintenance information via any form or format. This publication provides an opportunity for you to inform the general aviation community of the problems you have encountered. The Service Difficulty Reporting (SDR) program also brings the problems to the attention of those who are able to resolve the problems. Your participation in the SDR program is vital to the end product, which is accurate maintenance information.

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#### COPPERSTATE REGIONAL EAA FLY-IN

The Copperstate Regional EAA Fly-In, sponsored by the Arizona Council of EAA Chapters, will be held October 10-13 at the Williams Gateway Airport which is located in Mesa, Arizona. This is the 25th anniversary of this event and promises to be the best yet.

The gates will be open from 8 a.m. to 5 p.m. daily, and airshow demonstrations will be

conducted Friday, Saturday, and Sunday from 3 p.m. until 5 p.m. It is expected that over 30,000 people will attend this event. There will be approximately 150 exhibitors, including all of the major aircraft kit manufacturers. Over 400 show planes and many aerial demonstrations will be available for viewing. Aviation workshops and seminars will be conducted each day from 10 a.m. until 3 p.m. Thursday and Friday have been designated as "Copperstate Kid's Days", and hundreds of local school children will be in attendance.

For those who plan to arrive at the airport by private aircraft, an information sheet is available. The telephone number to request an information sheet is (602) 827-4700. This will provide information on arrivals and departures as well as other important information. This, as well as other pertinent information, is available through the following Internet and E-Mail addresses:

[http://www.primenet.com/~eaa\\_ariz/](http://www.primenet.com/~eaa_ariz/)

E-MAIL address [eaa\\_ariz@primenet.com](mailto:eaa_ariz@primenet.com)

There will be many aviation activities to spark the interest of people of all ages. The staff of this publication will be available to answer questions and distribute information concerning the FAA Service Difficulty Reporting (SDR) program.

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#### DANGEROUS GOODS ADVISORY BULLETIN

This Advisory Bulletin (DGAB-96-01), dated July 16, 1996, was issued by the FAA's Associate Administrator for Civil Aviation Security, ACS-1, located in Washington, D.C. It concerns the prohibition of oxygen generators (chemical) aboard passenger aircraft. (This Dangerous Goods Advisory Bulletin is published exactly as it was received.)

## **Civil Aviation Security Dangerous Goods Advisory Bulletin**

### **Information of Concern to Aviation Cargo and Cargo Security Personnel Current Cargo Acceptance and Handling Procedures Should be Reviewed in Light of this Information**

**Subject: Prohibition of Oxygen  
Generators (Chemical)  
Aboard Passenger Aircraft**

**Number: DGAB-96-01**

**Date: July 16, 1996**

**INFORMATION:** The National Transportation Safety Board and the FAA are investigating a recent accident involving a passenger-carrying aircraft. Preliminary evidence indicates that oxygen generators (chemical) may have caused the accident, or contributed to its severity. On May 24, 1996, the Research and Special Projects Administration (RSPA) of the Department of Transportation, issued an interim final rule to amend the Hazardous Materials Regulations to prohibit the offering, acceptance or transportation of oxygen generators as cargo in passenger-carrying aircraft. This interim final rule applies to both foreign and domestic passenger-carrying aircraft entering, leaving, or operating in the U.S. This regulation applies to oxygen generators (chemical) and not to cylinders containing compressed oxygen.

**FAA COMMENT:** Since the issuance of the interim final rule, the FAA has learned of instances in which oxygen generators are still being offered and carried aboard passenger aircraft. We believe that these occurrences are primarily due to confusion on the part of shipping and transportation personnel caused the Proper Shipping Name (PSN) and basic description assigned to oxygen generators (chemical). The current authorized shipping description for an oxygen generator (chemical) containing

sodium chlorate as the primary constituent is "Oxidizing solid, n.o.s., 5.1, UN1479, II." In addition, the technical names of the two components which most predominantly contribute to the hazards of the oxygen generator (chemical) must be entered in parentheses in association with the basic description (see 49 CF 172.203(k)). For example, "Oxidizing solid, n.o.s., (contains sodium chlorate and barium peroxide), 5.1, UN1479, II."

FAA investigations have established, however, that in actual practice oxygen generators are also being shipped under various other basic descriptions. Air carrier cargo acceptance personnel should be aware that oxygen generators (chemical) might be offered as cargo under any of the following basic descriptions:

- 1. Oxidizing solid, n.o.s., 5.1, UN1479, II**
- 2. Oxidizing substances, solid, n.o.s., 5.1, UN1479, II**
- 3. Sodium chlorate, 5.1, UN1495, II**
- 4. Barium peroxide, 5.1, UN1449, II**
- 5. Potassium perchlorate, solid, 5.1, UN1489, II**
- 6. Potassium superoxide, 5.1, UN2466, I**

The FAA strongly advises all passenger air carrier cargo acceptance and handling personnel to be alert to any shipments being offered under any of the shipping descriptions noted above. Should such a shipment be encountered, carriers are strongly advised to question the offeror of the shipment as to the actual contents of the package and, if there is any doubt, conduct a physical inspection of the package. Under no circumstances should shipments using the above noted shipping descriptions be transported until the air carrier is satisfied that the package does **NOT** contain oxygen generators (chemical).

Air carrier repair station and cargo personnel are reminded to pay particular attention to shipments of company material (COMAT) that might contain

oxygen generators, including those possibly contained in passenger service units or seat back assemblies being shipped as replacement or spares. Such shipments are, of course, prohibited aboard passenger aircraft, and must be otherwise shipped in full compliance with all hazardous materials regulations aboard cargo-only aircraft or via surface transportation.

(NOTE: RSPA anticipates adding a specific name, "Oxygen generator (chemical)", to the Hazardous Materials Table in the near future. Until that change becomes effective, however, RSPA has requested that anyone shipping oxygen generators (chemical) take the following additional precautions: Mark each shipping paper and package "Oxygen generator (chemical)" in association with the shipping description on each shipping paper and the marked proper shipping name on each package. If there is any likelihood that a shipment might be transported via air, insure that the "cargo aircraft only" marking is included.)

If any oxygen generator (chemical) is offered for transportation as cargo aboard a passenger air carrier, the air carrier should report such information by telephone, as soon as practicable, to the nearest Civil Aviation Security Office.

#### **DISSEMINATION AND ACTION**

**REQUIRED:** This Dangerous Goods Advisory Bulletin is releasable to, and should be immediately provided to all U.S. passenger and cargo air carriers for the information of all corporate cargo/security/operations management personnel, all cargo acceptance/handling personnel, all certified aircraft repair station and maintenance facility personnel involved in the shipment of aircraft parts, and all cargo security personnel.

/s/ Cathal L. Flynn  
Associate Administrator for  
Civil Aviation Security

For further information on this subject, you may contact Mr. Chris Glasow (a Dangerous Goods Specialist) in the Civil Aviation Security Office, which is located in Washington, D.C. Mr. Glasow's telephone number is (202) 267-3952.

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#### **PAMA '97 CONVENTION DATE CHANGE**

The Professional Aviation Maintenance Association (PAMA) has announced that its Annual Symposium and Trade Show originally scheduled for May 14-16, 1997, in Fort Worth, Texas, has been changed to avoid a conflict with another association's convention. The new dates are May 20-22, 1997. The event will be held at the Fort Worth/Tarrant County Convention Center.

Recently, the Regional Airline Association (RAA) selected May 12-14, 1997, for their conference in Nevada. PAMA had some flexibility in scheduling, whereas RAA had none. Rather than taking a conflicting and rigid position, PAMA has elected to act with the best interests of the industry exhibitors and attendees in mind. This scheduling change will allow those so inclined to attend both events.

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#### **FAA FORM 8010-4, MALFUNCTION OR DEFECT REPORT**

For your convenience, FAA Form 8010-4, Malfunction or Defect Report, will be printed in every issue of this publication.

Simply complete the form, fold, staple, and return it to the address printed on the form. (No postage is required.)

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DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION		OPER. Control No.		3. Comments (Describe the malfunction or defect and the circumstances under which it occurred. State probable cause and recommendations to prevent recurrence.)	REPORT OFFICE	OPERATOR IDENTIFICATION
<b>MALFUNCTION OR DEFECT REPORT</b>		ATA Code				
		1. A/C Reg. No. <b>N-</b>				
Enter pertinent data	MANUFACTURER	MODEL/SERIES	SERIAL NUMBER			
2 <b>AIRCRAFT</b>						
3 <b>POWERPLANT</b>						
4 <b>PROPELLER</b>						
5. SPECIFIC PART (of component) CAUSING TROUBLE						
Part Name	MFG. Model or Part No.	Serial No.	Part/Defect Location			
6. APPLIANCE/COMPONENT (Assembly that includes part)						
Comp/Appl Name	Manufacturer	Model or Part No.	Serial Number			
Part ID	Part TSO	Part Condition	T. Date Sub.	Optional Information:		
				Check a box below, if this report is related to an aircraft		
				<input type="checkbox"/> Accident; Date _____ <input type="checkbox"/> Incident; Date _____		
				REPORTED BY:	DATE:	TELEPHONE NUMBER ( ) _____

FAA Form 8010-4 (10-99) SUPERSEDES PREVIOUS EDITIONS

Use this space for continuation of Block 8 (if required).



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Maintenance Support Branch  
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AFS-640

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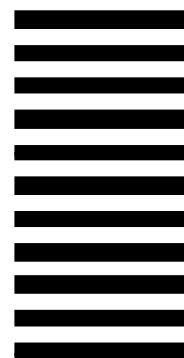


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